



Kennedy Space Center

# RESOLVE - Regolith & Environment Science and Oxygen & Lunar Volatile Extraction

The Regolith & Environment Science and Oxygen & Lunar Volatile Extraction (RESOLVE) payload is an exploration system designed to be placed on a rover and driven over the surface of the moon for 9 days to map the distribution of the water ice and other useful compounds seen on previous missions.

RESOLVE will drill into the lunar surface and heat the material collected in order to measure the amount of water vapor and other compounds that are present, thus showing how future missions could gather and then use these valuable resources.

Future missions will benefit from this analysis tool and others because it will be more cost-effective to mine water components, fuel, and other compounds at the point of destination rather than transport them from Earth. NASA is packaging the RESOLVE payload in the Resource Prospector mission targeted for launch in 2020. NASA continues to explore mission solutions by leveraging partnerships across NASA, industry, other nations and academia.



The engineers leading development of the RESOLVE experiment package look over the prototype during a demonstration of the machine at NASA's Kennedy Space Center in Florida. Photo credit: NASA/Dmitri Gerondidakis



The RESOLVE's main tool is a drill designed to burrow about one meter into the lunar soil to extract water. Photo credit: NASA/Dmitri Gerondidakis

Web sites: <http://www.nasa.gov/exploration/systems/ground/resolverover.html>;  
<https://www.nasa.gov/resource-prospector>

Contact information: [Jacqueline.W.Quinn@nasa.gov](mailto:Jacqueline.W.Quinn@nasa.gov)